

**WHAT IS CLAIMED IS:**

1. A lithographic apparatus, comprising:
  - a radiation system configured to supply a beam of radiation;
  - a support structure for supporting a patterning device that imparts a desired pattern to said beam of radiation;
  - a substrate holder configured to hold a substrate;
  - a projection system configured to project said patterned beam of radiation onto a target portion of said substrate; and
  - a linear motor configured to move one of said support structure and said substrate table, said linear motor comprising:
    - a first magnetic plate;
    - a second magnetic plate arranged opposite to said first magnetic plate;
    - and
    - an open coil unit, interposed between said first and second magnetic plates, including a plurality of coils wound about respective ferromagnetic cores,
    - wherein said first and second magnetic plates and said coil unit are relatively moveable.
2. The lithographic apparatus of Claim 1, wherein said coil block comprises three coil sets with each coil set comprising one or more coils.
3. The lithographic apparatus of Claim 1, wherein said coil unit further comprises at least one additional ferromagnetic member having no coil wound thereon and being spaced from an outermost one of said coils.

4. The lithographic apparatus of Claim 1, wherein said ferromagnetic cores project beyond said coils wound around them, and a coolant conduit is provided between said cores and in thermal contact with said coils.

5. The lithographic apparatus of Claim 4, wherein said coolant conduit is formed of a ceramic material.

6. The lithographic apparatus of Claim 5, wherein said coils comprise a foil.

7. The lithographic apparatus of Claim 1, wherein said magnetic plates comprise Halbach magnets.

8. The lithographic apparatus of Claim 1, wherein said first and second magnetic plates are inclined towards each other.

9. The lithographic apparatus of Claim 8, further including means for varying the commutation angle applied to coils of said coil unit.

10. A device manufacturing method, comprising:

providing a substrate;

providing a beam of radiation using a radiation system;

imparting a desired pattern onto said beam of radiation by employing a patterning device;

projecting said patterned beam of radiation onto a target portion of said substrate; and

displacing at least one of said substrate and said patterning device by using a linear motor, said linear motor comprising first and second magnetic plates that are arranged opposite to each other, and an open coil unit between said first and second magnetic plates, said coil unit comprising a plurality of coils wound about respective ferromagnetic cores,

wherein said magnetic plates and said coil unit are relatively moveable.

11. A linear motor, comprising:
  - a first magnetic plate;
  - a second magnetic plate arranged opposite to said first magnetic plate; and
  - an open coil unit, interposed between said first and second magnetic plates, including a plurality of coils wound about respective ferromagnetic cores, wherein said first and second magnetic plates and said coil unit are relatively moveable.
12. The linear motor of Claim 11, wherein said coil block comprises three coil sets with each coil set comprising one or more coils.
13. The linear motor of Claim 11, wherein said coil unit further comprises at least one additional ferromagnetic member having no coil wound thereon and being spaced from an outermost one of said coils.
14. The linear motor of Claim 11, wherein said ferromagnetic cores project beyond said coils wound around them, and a coolant conduit is provided between said cores and in thermal contact with said coils.
15. The linear motor of Claim 14, wherein said coolant conduit is formed of a ceramic material.
16. The linear motor of Claim 15, wherein said coils comprise a foil.
17. The linear motor of Claim 11, wherein said magnetic plates comprise Halbach magnets.

18. The linear motor of Claim 11, wherein said first and second magnetic plates are inclined towards each other.

19. The linear motor of Claim 18, further including means for varying the commutation angle applied to coils of said coil unit.